

IRRIGATION SYMBOLS

Backflow Preventer Assembly	-----	
Controller	-----	
Electrical Conduit	-----	
Pipe:		
Existing City Main Line	-----	
Pressure Main Line	-----	
Lateral Line	-----	
Point of Connection	-----	POC
Electrical Service Control Cabinet	-----	
Pull Box	-----	
Station Designation (Remote Control Valve)	-----	<div> <div>4.0 — Liters/second</div> <div>3 — Station</div> <div>65 — Valve size, mm</div> </div> <div> <div>60.5 — GPM</div> <div>3 — Station</div> <div>2.5" — Valve size</div> </div>
Gate Valve	-----	
Quick Coupler	-----	
Remote Control Valve	-----	
Water Meter	-----	

Dimensions are in millimeters, except as noted

REVISIONS		CITY OF LONG BEACH, CALIFORNIA DEPARTMENT OF PUBLIC WORKS	STANDARD PLAN NO.
NO.	DATE		METRIC 401
1	12/23/02	IRRIGATION SYMBOLS	SHEET 1 OF 1
2			
3			
4			
APPROVED BY: <i>Mark Christoffel</i>		DATE: <i>1/10/03</i>	
CITY ENGINEER R.E. No. <i>40589</i>		EX. DATE: <i>03/31/03</i>	

Type A 630 x 280 (2'-0 7/8"x11")

Type B 935 x 280 (3'-0 7/8"x11")

15 (1/2") dia hole for lock

Type A
Type B

585 (1'-11")
890 (2'-11")

4.5 mm (3/16") plate steel enclosure with 3.4 mm (10 ga) steel piano hinge door

40 x 40 x 5 mm (1 1/2" x 1 1/2" x 3/16") typ

3 (1/8") typ

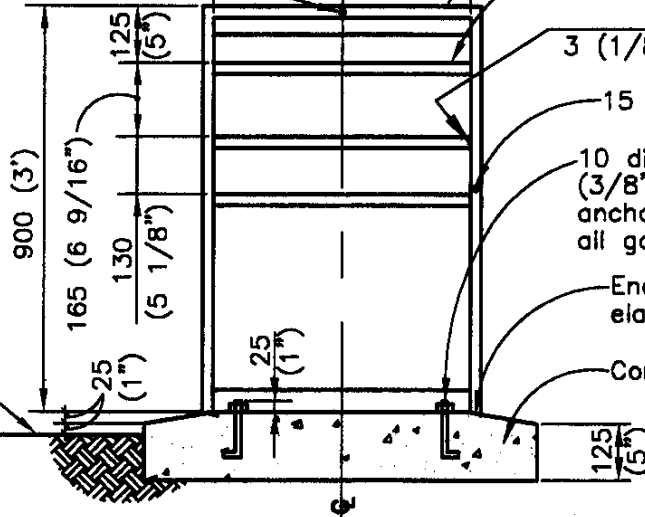
15 (1/2") dia hole for lock

10 dia x 100 x 25 mm (3/8" dia x 4" x 1") anchor bolt with nut & washer, all galvanized

Enclosure to be set on elastomeric mastic

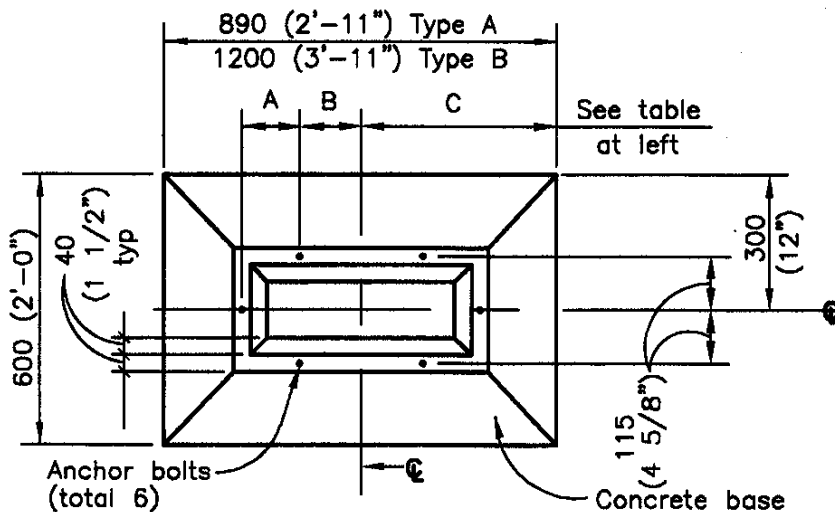
Concrete base

Finished grade
See Note 4



SECTION

Type A	
A	130 (5 1/8")
B	140 (5 1/2")
C	445 (1'-5 1/2")
Type B	
A	130 (5 1/8")
B	290 (11 1/2")
C	600 (1'-11 1/2")



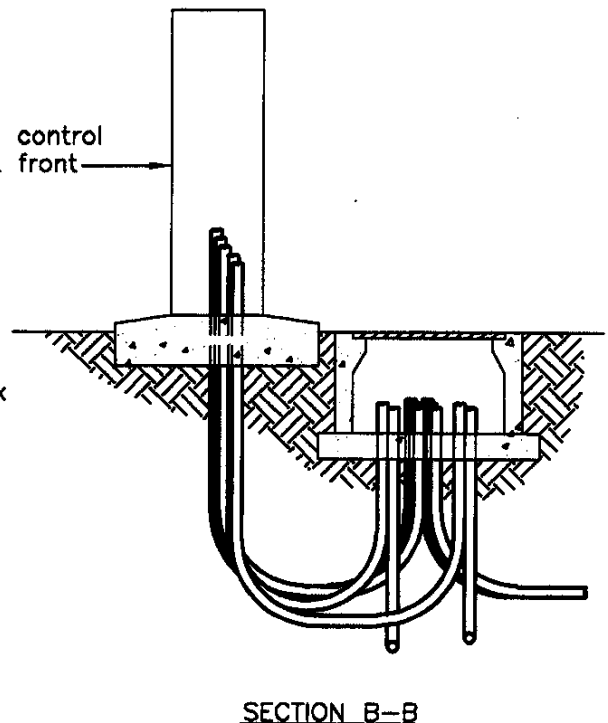
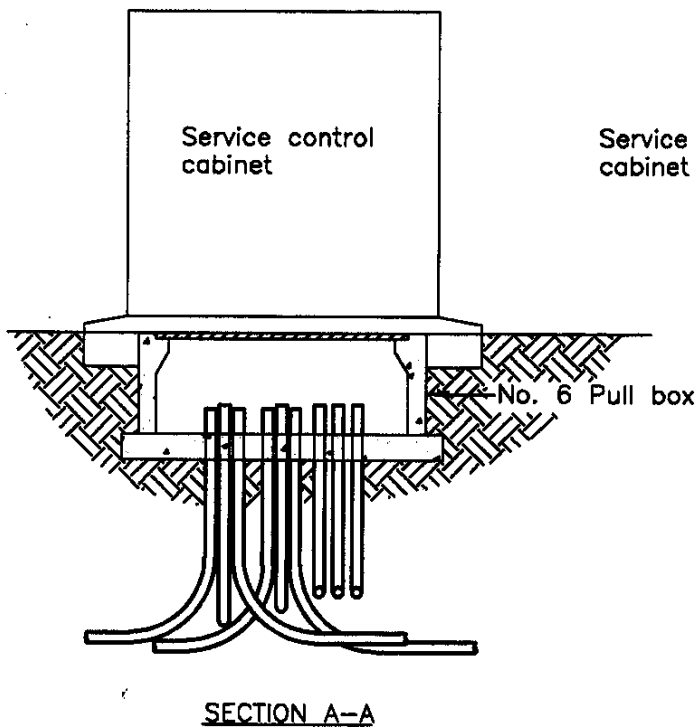
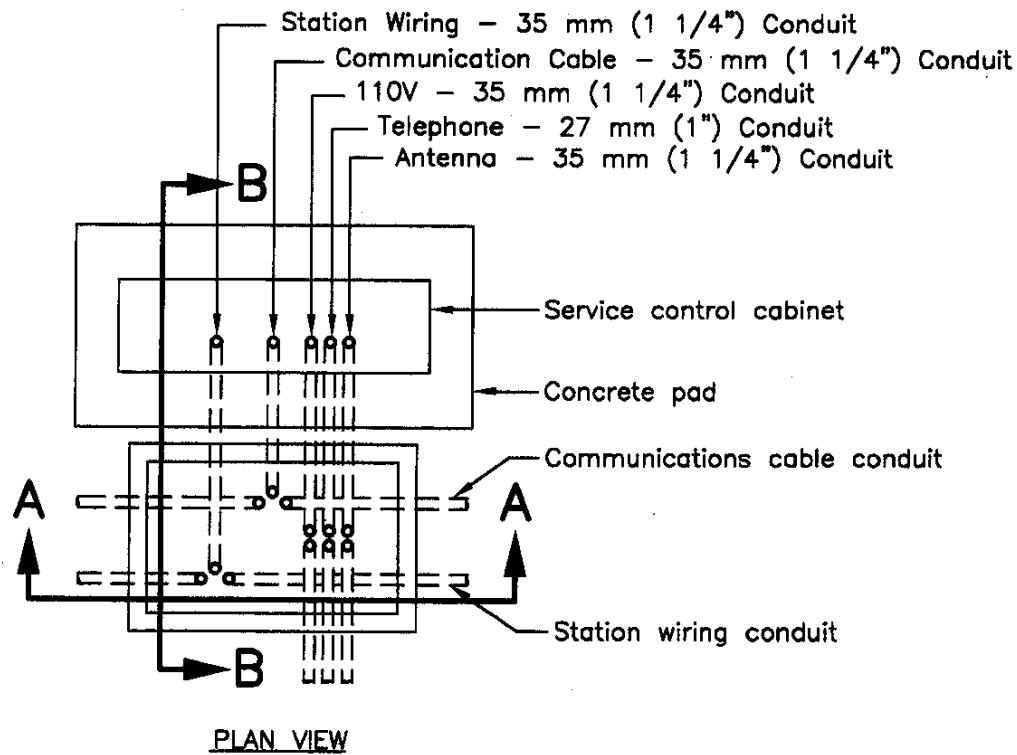
PLAN OF CONCRETE BASE
TYPE A AND TYPE B

NOTES:

- Concrete shall be 310-C-17 (520-C-2500).
- All welds shall be ground smooth.
- Enclosure shall be painted with one prime coat and two finish coats of green enamel rust inhibiting paint. Color shall be approved by the Engineer.
- In sidewalk areas the enclosure shall be set flush with the sidewalk.

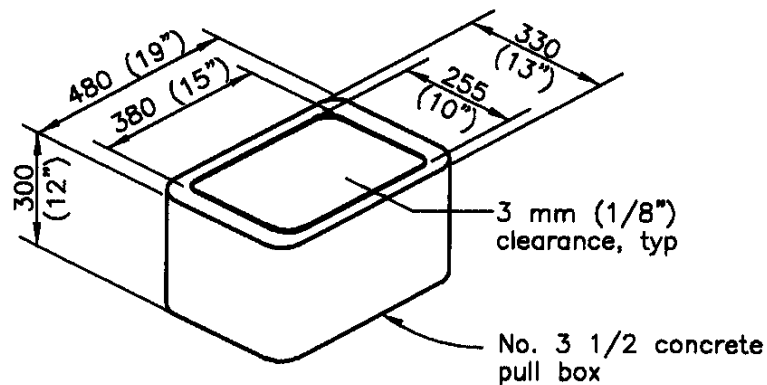
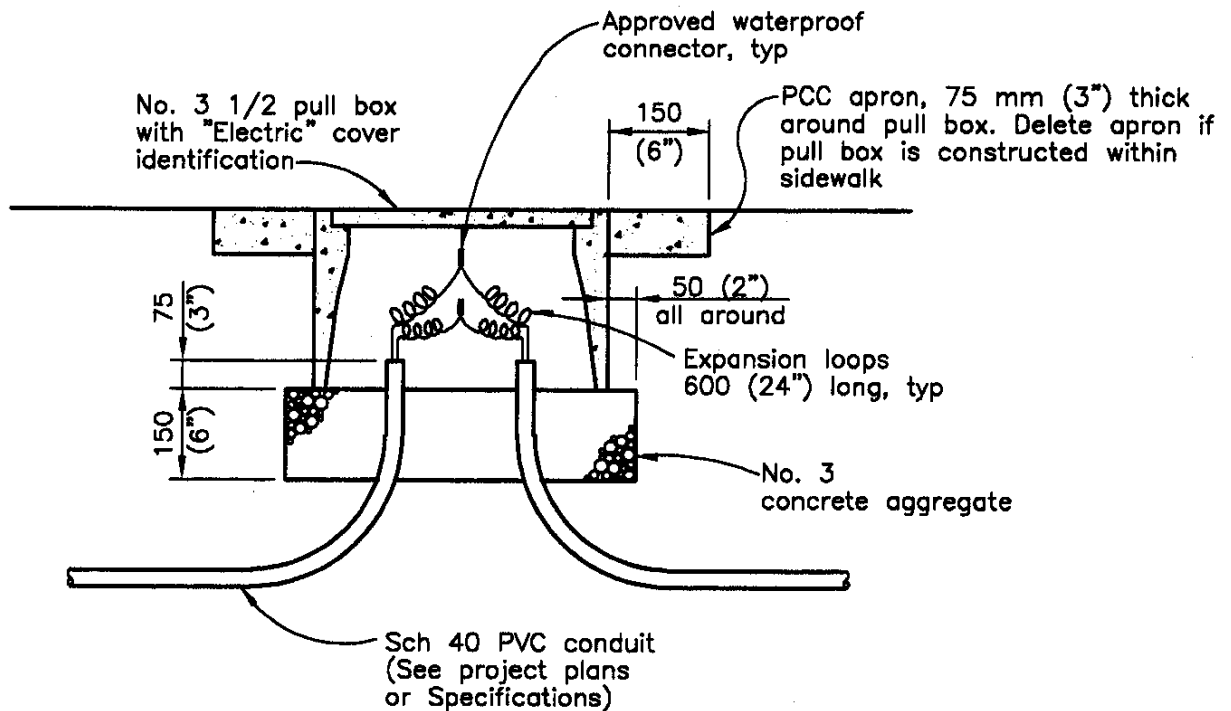
Dimensions are in millimeters, except as noted

REVISIONS		CITY OF LONG BEACH, CALIFORNIA DEPARTMENT OF PUBLIC WORKS	STANDARD PLAN NO.
NO.	DATE		
1	12/23/02	IRRIGATION CONTROLLER ENCLOSURE	METRIC 402
2			
3			
4			
APPROVED BY: <i>Mark Chittell</i>		DATE: <i>1/10/03</i>	SHEET
CITY ENGINEER R.E. No. 40599		EX. DATE: <i>03/31/03</i>	1 OF 2



Dimensions are in millimeters, except as noted

REVISIONS		CITY OF LONG BEACH, CALIFORNIA DEPARTMENT OF PUBLIC WORKS	STANDARD PLAN NO.
NO.	DATE		
1	12/23/02	IRRIGATION CONTROLLER ENCLOSURE	METRIC 402
2			
3		APPROVED BY: <i>Max Chiffel</i> CITY ENGINEER R.E. NO. 40599	SHEET 2 OF 2
4			
		DATE: 1/10/03 EX. DATE: 03/01/03	



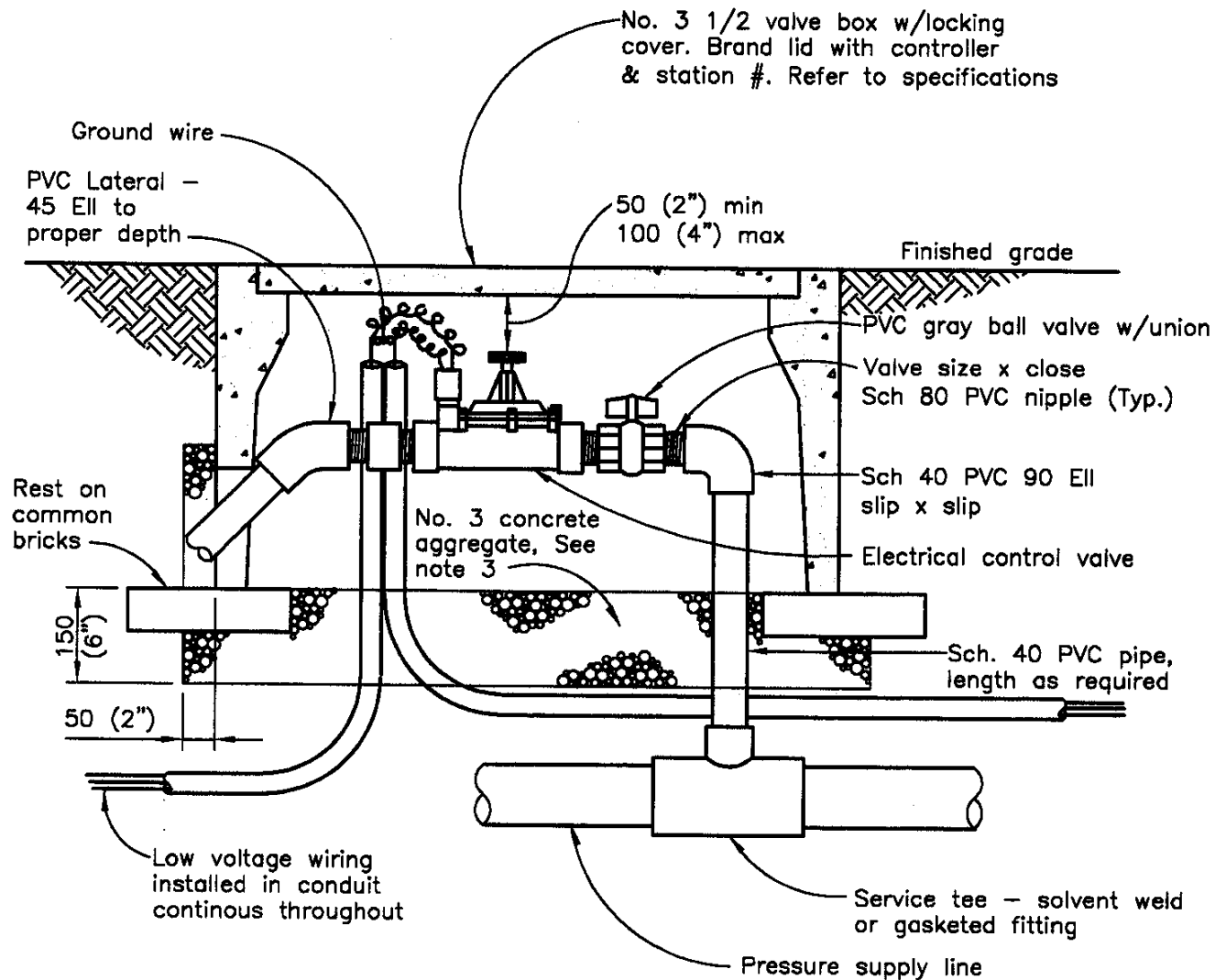
PULL BOX DETAIL

NOTE:

Pull boxes shall be non-boltdown type unless noted.

Dimensions are in millimeters, except as noted

REVISIONS		CITY OF LONG BEACH, CALIFORNIA DEPARTMENT OF PUBLIC WORKS		STANDARD PLAN NO.
NO.	DATE			
1	12/08/97	ELECTRICAL PULL BOX AND SPLICE		METRIC 404
2	12/23/02			
3		APPROVED BY: <i>Mark Dittell</i> CITY ENGINEER R.E. No. 4599		SHEET 1 OF 1
4				
		DATE: 1/10/03 EX. DATE: 03/31/03		

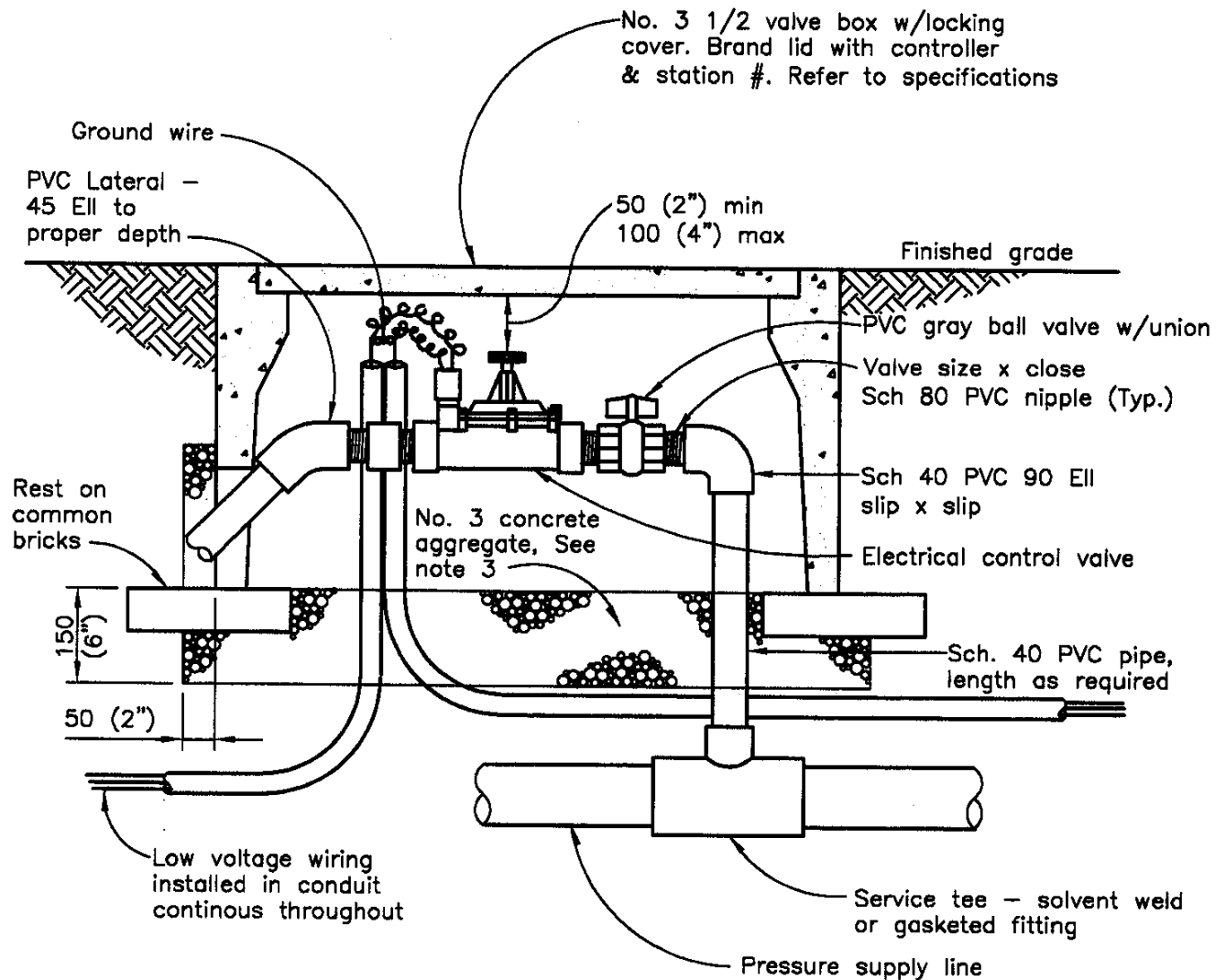


NOTES:

1. Diameters of riser, fittings, ball valve and nipple shall equal control valve diameter.
2. Loop all spare wires from controller inside each valve box - 300 mm (12") diameter loop (min.).
3. Concrete aggregate shall cover valve box openings to prevent soil entry.

Dimensions are in millimeters, except as noted

REVISIONS		CITY OF LONG BEACH, CALIFORNIA DEPARTMENT OF PUBLIC WORKS	STANDARD PLAN NO.
NO.	DATE		
1	12/23/02	ELECTRIC REMOTE CONTROL VALVE	METRIC 405
2			
3			
4			
APPROVED BY: <i>Mark Chittell</i>		DATE: <i>1/10/03</i>	SHEET
CITY ENGINEER R.E. No. 40599		EX. DATE: <i>03/31/03</i>	1 OF 1

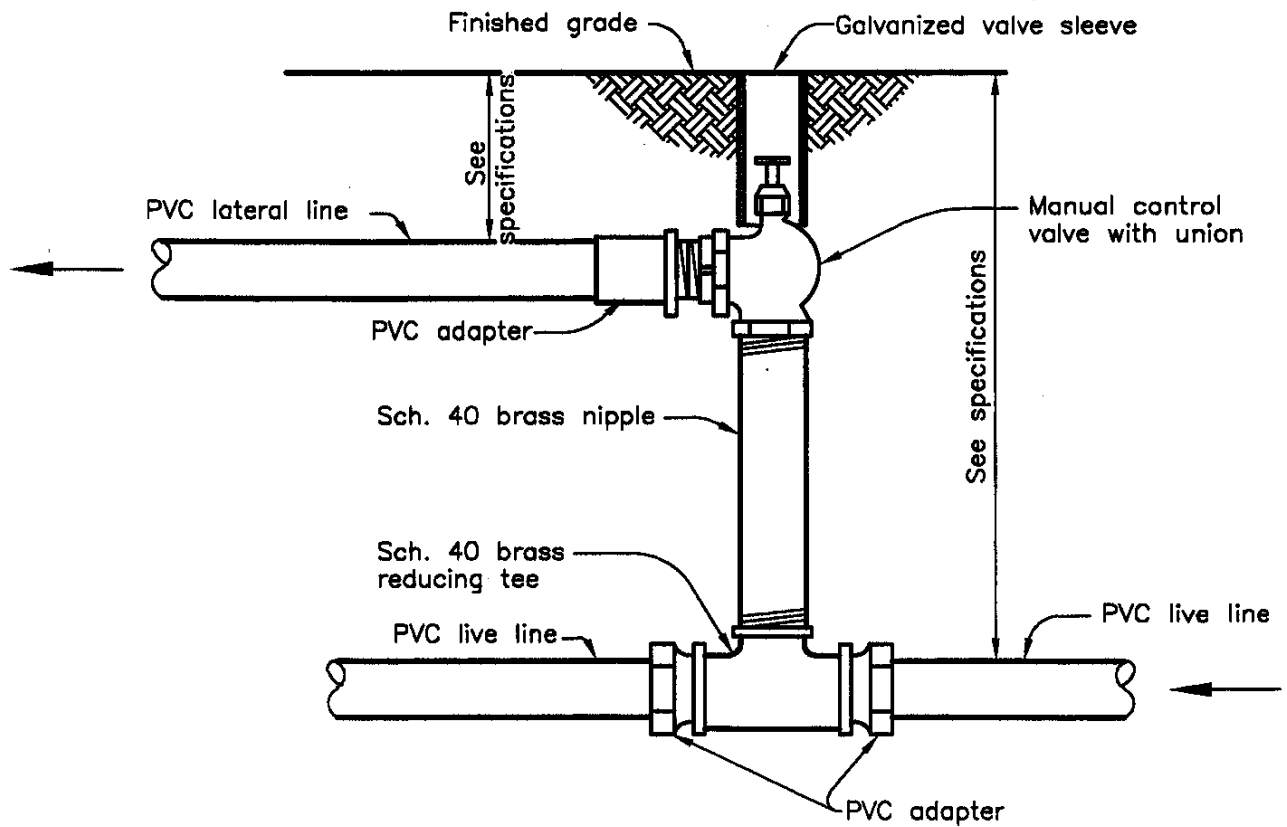


NOTES:

1. Diameters of riser, fittings, ball valve and nipple shall equal control valve diameter.
2. Loop all spare wires from controller inside each valve box - 300 mm (12") diameter loop (min.).
3. Concrete aggregate shall cover valve box openings to prevent soil entry.

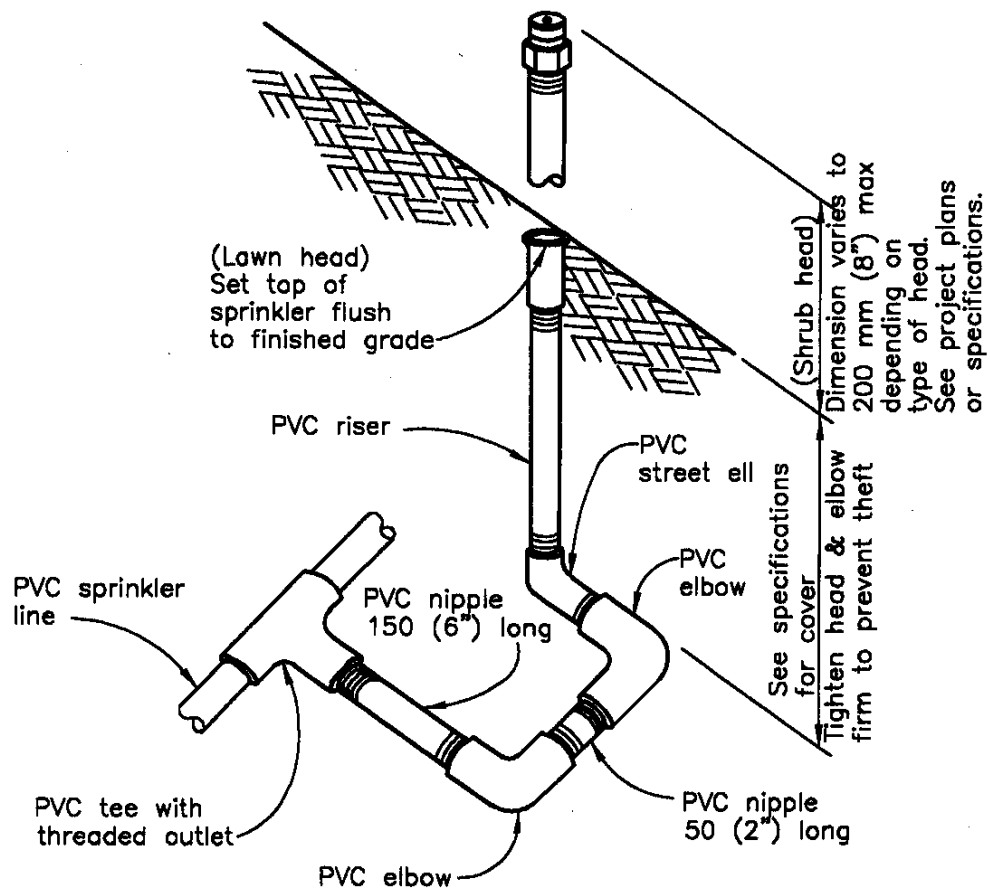
Dimensions are in millimeters, except as noted

REVISIONS		CITY OF LONG BEACH, CALIFORNIA DEPARTMENT OF PUBLIC WORKS	STANDARD PLAN NO.
NO.	DATE		METRIC 405
1	12/23/02	ELECTRIC REMOTE CONTROL VALVE	SHEET 1 OF 1
2			
3			
4			
APPROVED BY: <i>Mark Chittell</i>		DATE: <i>1/10/03</i>	
CITY ENGINEER R.E. No. 40599		EX. DATE: 03/31/03	



Dimensions are in millimeters, except as noted

REVISIONS		CITY OF LONG BEACH, CALIFORNIA DEPARTMENT OF PUBLIC WORKS	STANDARD PLAN NO.
NO.	DATE		METRIC 406
1	12/09/97	MANUAL CONTROL VALVE	SHEET 1 OF 1
2	12/23/02		
3		APPROVED BY: <i>Mal. [Signature]</i>	DATE: <i>1/10/03</i>
4		CITY ENGINEER R.E. No. 40599	EX. DATE 03/31/03

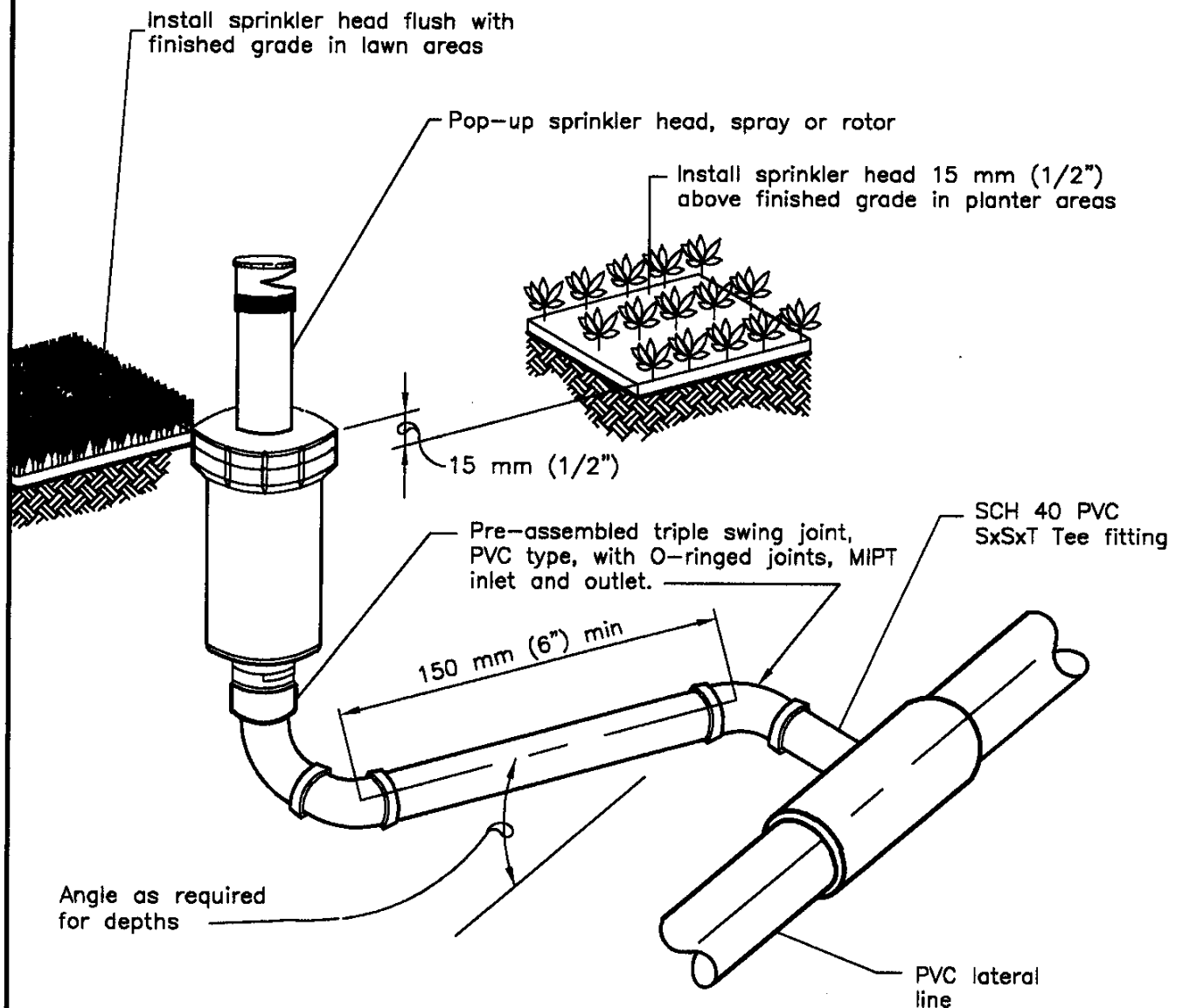


NOTES:

1. All fittings and nipples shown shall be the same size as the sprinkler head riser opening.

Dimensions are in millimeters, except as noted

REVISIONS		CITY OF LONG BEACH, CALIFORNIA DEPARTMENT OF PUBLIC WORKS	STANDARD PLAN NO.
NO.	DATE		METRIC 407
1	12/09/97	SPRINKLER HEAD INSTALLATION TYPE A	SHEET 1 OF 1
2	12/23/02		
3		APPROVED BY: <i>Mark Chaffin</i>	DATE: <i>1/10/03</i>
4		CITY ENGINEER R.E. No. <i>40589</i>	EX. DATE: <i>03/31/03</i>

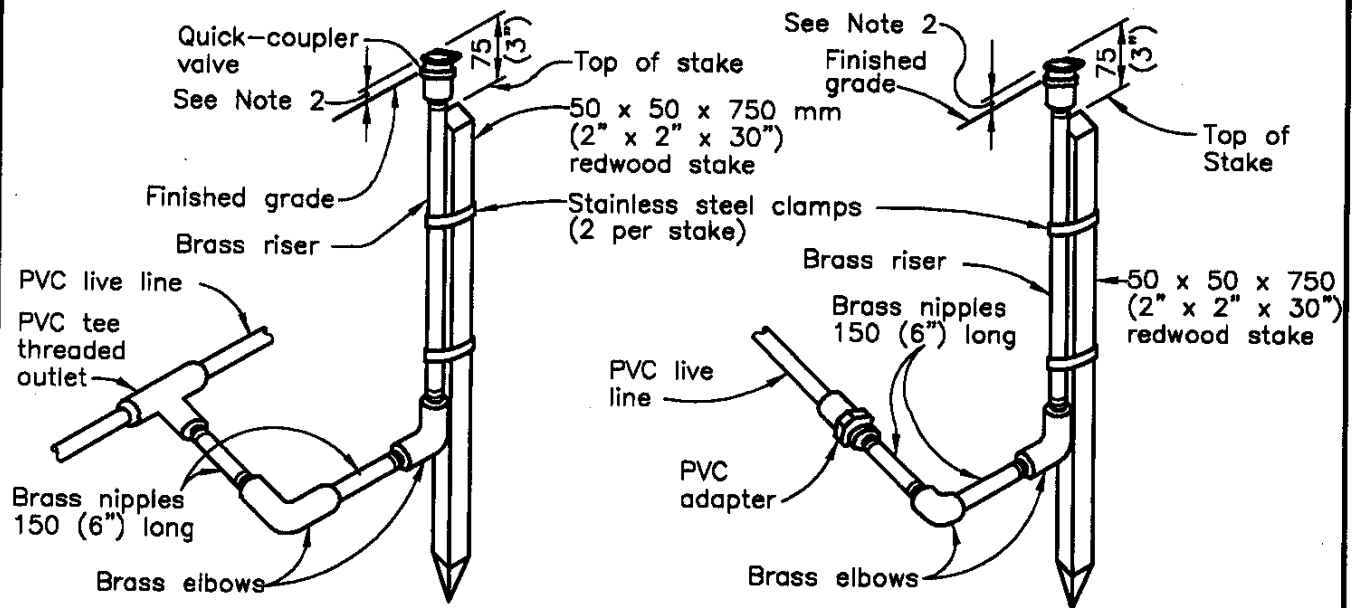


NOTES:

1. Install sprinkler heads at least 150 mm (6") from pavement adjacent to planter areas, and at least 100 mm (4") from paving in lawn areas.
2. Use teflon tape on all threaded fittings.

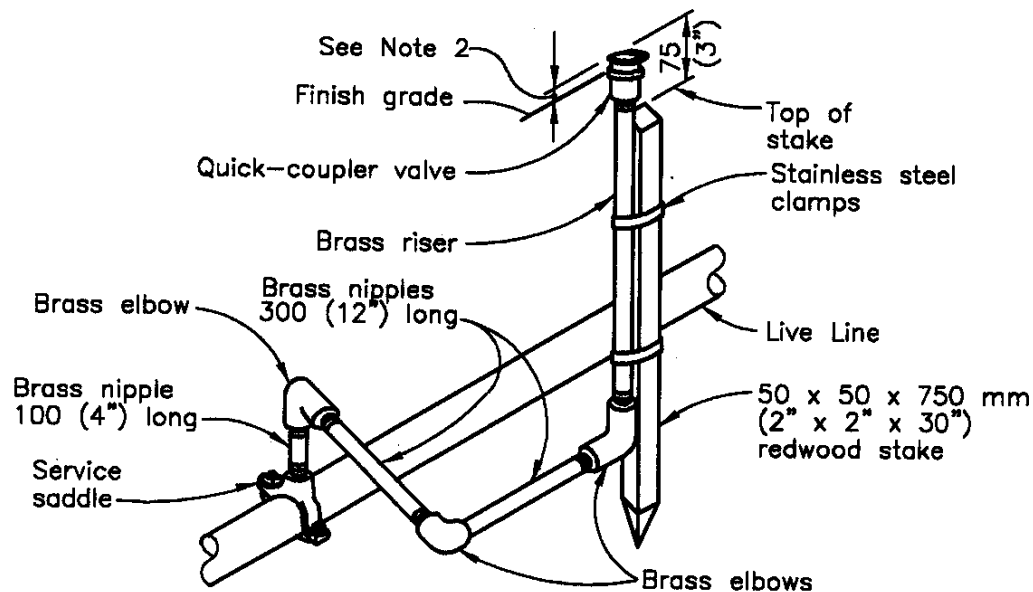
Dimensions are in millimeters, except as noted

REVISIONS		CITY OF LONG BEACH, CALIFORNIA DEPARTMENT OF PUBLIC WORKS	STANDARD PLAN NO.
NO.	DATE		
1	12/23/02	SPRINKLER HEAD INSTALLATION TYPE B	METRIC 408
2			
3			
4			
APPROVED BY: <i>Mark D. Hill</i>		DATE: 1/10/03	SHEET
CITY ENGINEER R.E. No. 40599		EX. DATE 03/31/03	1 OF 1



IN LINE INSTALLATION

END OF LINE INSTALLATION



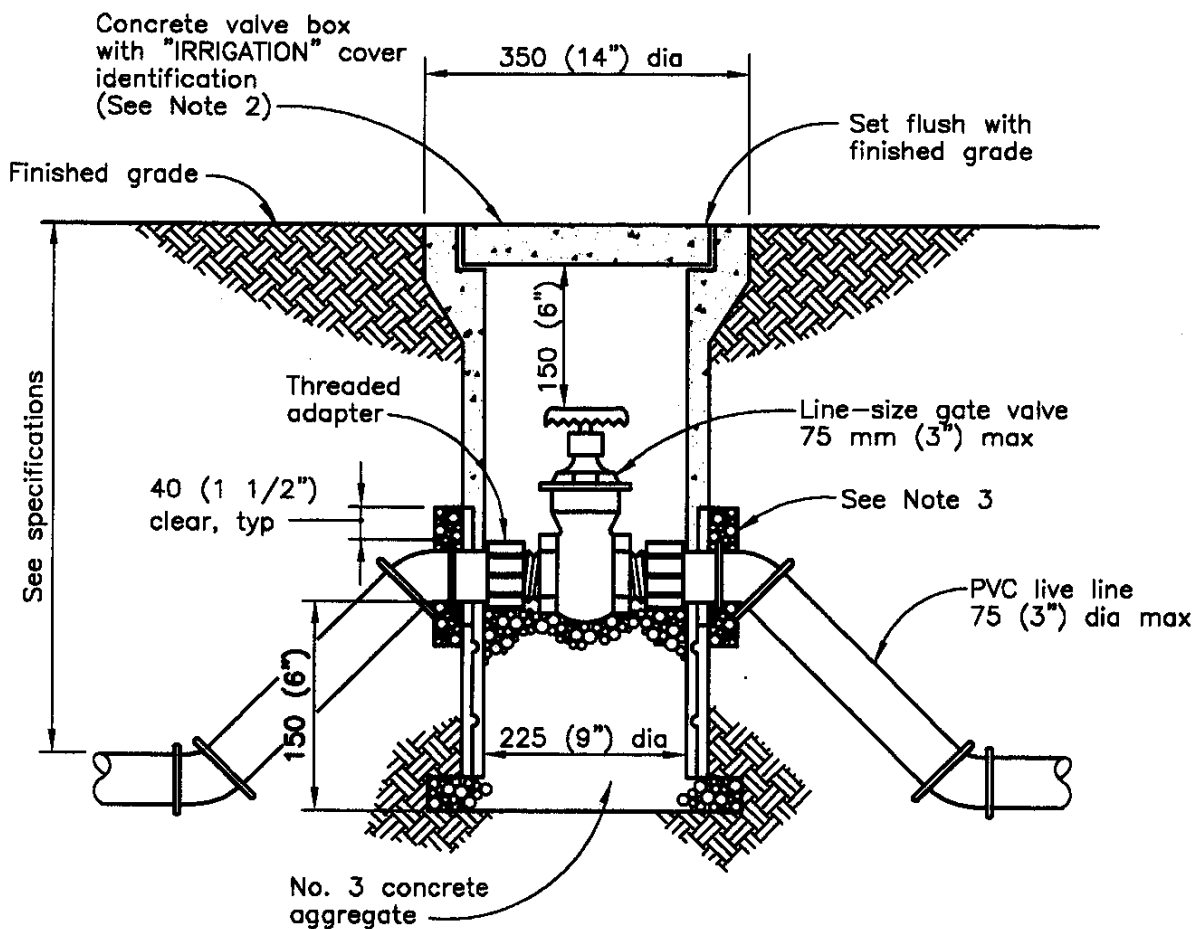
INSTALLATION ON LIVE LINE 100 mm (4") or Larger

NOTES:

1. Brass risers, nipples and elbows shall be Schedule 40.
2. Quick-coupling valves shall be installed flush with finished grade in lawn areas and 25 mm (1") above finished grade in all other areas.
3. Quick-coupling valves shall be located not more than 300 mm (12") from adjacent header board, curb or sidewalk (except in lawn areas) unless otherwise shown on the project plans.

Dimensions are in millimeters, except as noted

REVISIONS		CITY OF LONG BEACH, CALIFORNIA DEPARTMENT OF PUBLIC WORKS	STANDARD PLAN NO.
NO.	DATE		
1	12/23/02	QUICK COUPLER VALVE INSTALLATION	METRIC 409
2			
3			
4			
APPROVED BY: <i>Mark Chittell</i>		DATE: <i>1/10/03</i>	SHEET 1 OF 1
CITY ENGINEER R.E. NO. 40599		EX. DATE: 03/31/03	

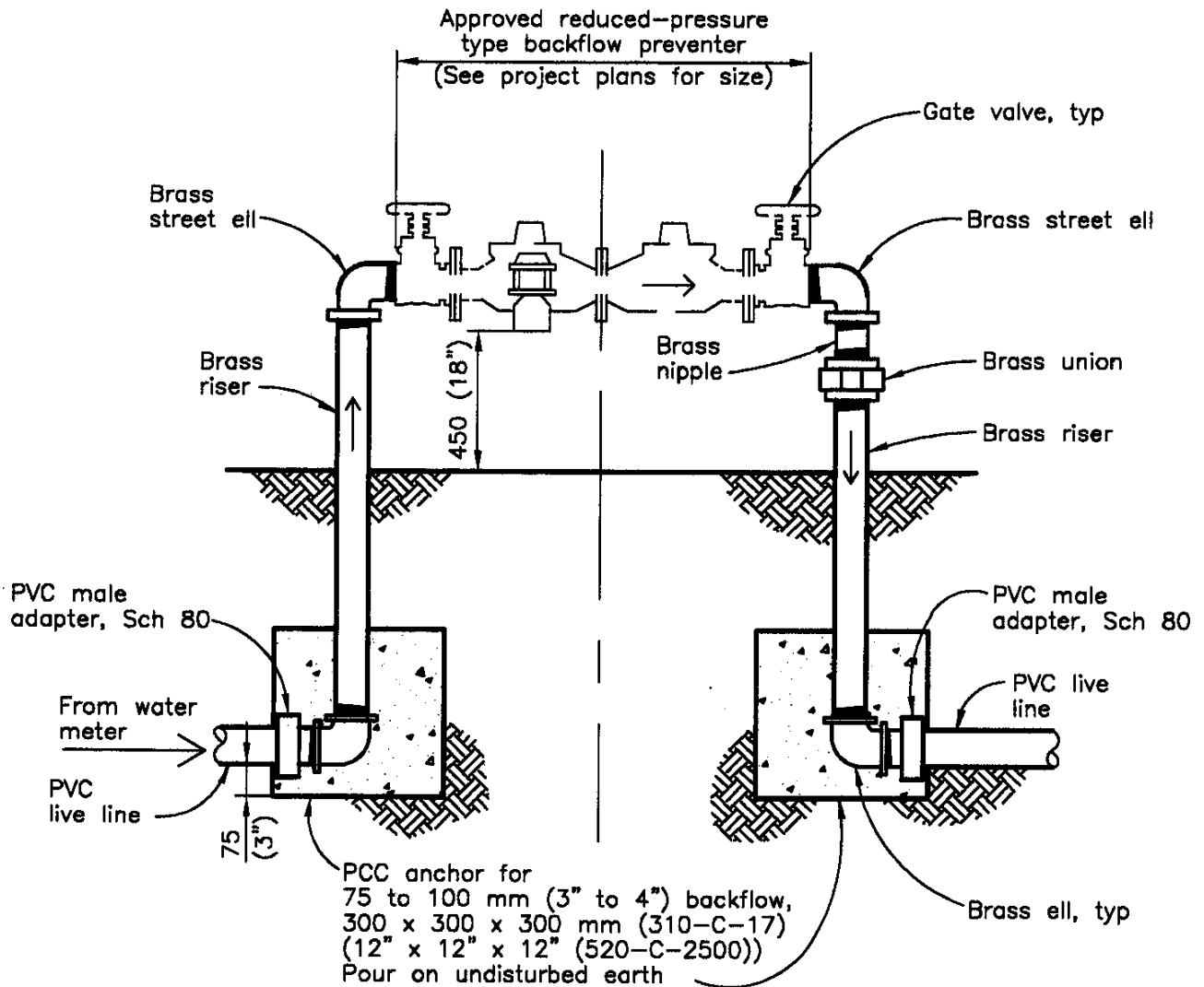


NOTES:

1. Valve box shall be positioned over the gate valve to allow maximum access and protection.
2. Green PVC valve box may be substituted for concrete valve box only if approved by the Engineer.
3. Concrete aggregate shall cover valve box openings to prevent soil entry.

Dimensions are in millimeters, except as noted

REVISIONS		CITY OF LONG BEACH, CALIFORNIA DEPARTMENT OF PUBLIC WORKS	STANDARD PLAN NO.
NO.	DATE		METRIC 410
1	12/10/97	GATE VALVE	SHEET 1 OF 1
2	12/23/02		
3		APPROVED BY: <i>Mal [Signature]</i>	DATE: <i>1/10/03</i>
4		CITY ENGINEER R.E. No. <i>A0599</i>	EX. DATE: <i>03/31/03</i>

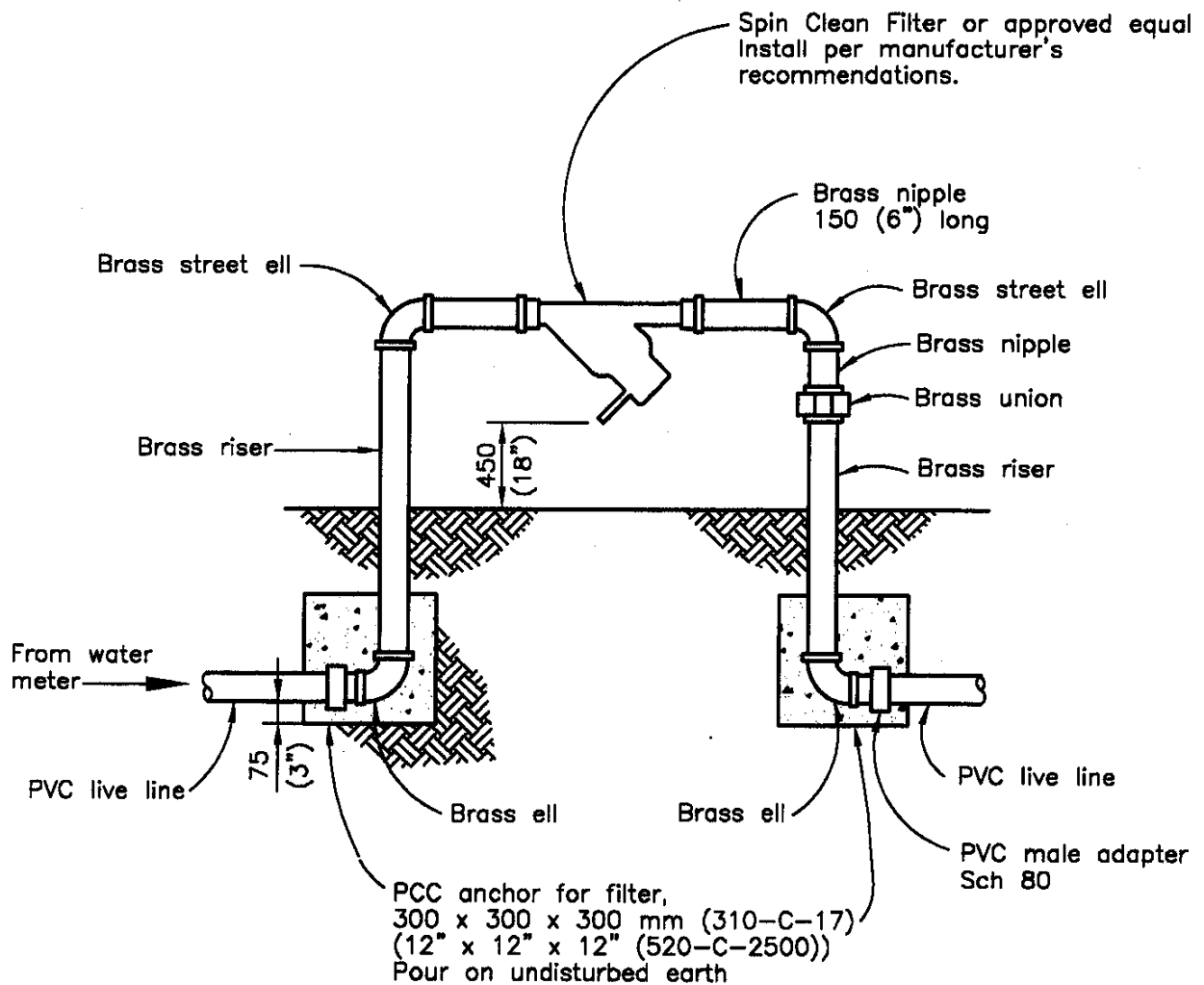


NOTES:

1. Brass risers, nipples, couplings and elbows shall be Schedule 40.
2. Entire assembly above ground shall be painted with one prime coat and two green enamel finish coats.
3. No take-offs shall be made between the water meter and the backflow preventer.

Dimensions are in millimeters, except as noted

REVISIONS		CITY OF LONG BEACH, CALIFORNIA DEPARTMENT OF PUBLIC WORKS	STANDARD PLAN NO.
NO.	DATE		
1	12/10/97	BACKFLOW PREVENTER INSTALLATION 100 mm (4") AND UNDER LINE SIZE	METRIC 411
2	12/23/02		
3		APPROVED BY: <i>Mark D. Miller</i> CITY ENGINEER R.E. No. 40589	SHEET 1 OF 1
4			
		DATE: 1/12/03 EX. DATE: 03/31/03	

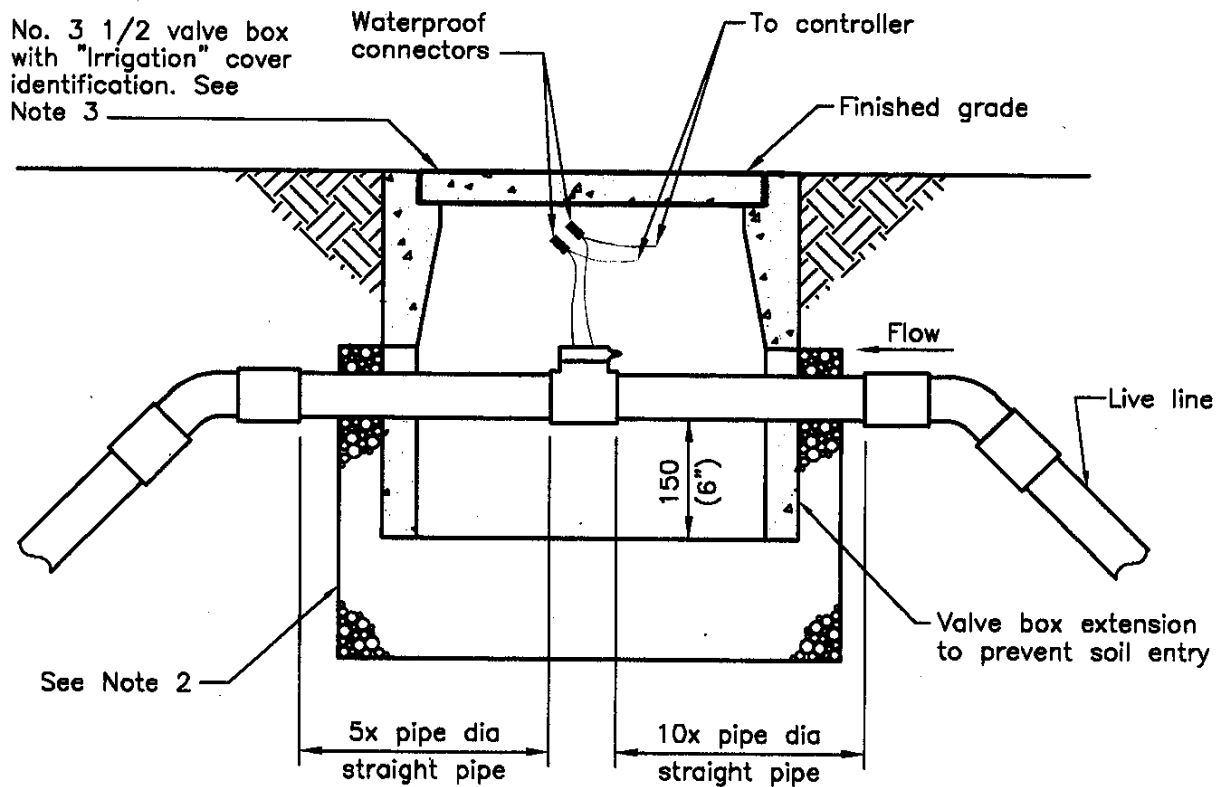


NOTES:

1. Brass risers, nipples, couplings and elbows shall be Schedule 40.
2. Entire assembly above ground shall be painted with one prime coat and two green enamel finish coats.

Dimensions are in millimeters, except as noted

REVISIONS		CITY OF LONG BEACH, CALIFORNIA DEPARTMENT OF PUBLIC WORKS	STANDARD PLAN NO.
NO.	DATE		METRIC 412
1	12/10/97	RECLAIMED WATER FILTER	SHEET
2	12/23/02		
3		APPROVED BY: <i>Mark Smith</i>	DATE: <i>1/10/03</i>
4		CITY ENGINEER R.E. No. <i>40598</i>	EX. DATE: <i>03/31/03</i>
			1 OF 1

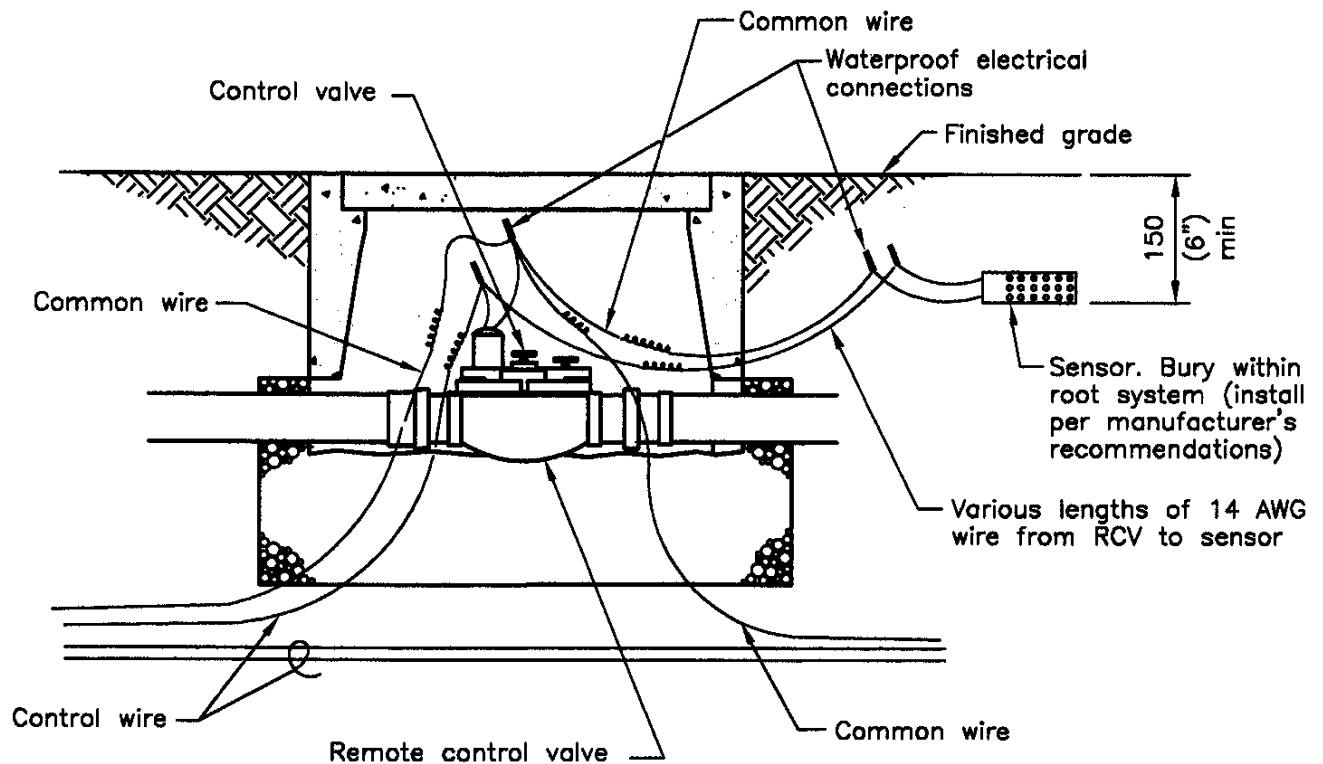


Notes:

1. Install flow sensor per manufacturer's recommendation.
2. Concrete aggregate shall cover valve box openings to prevent soil entry.
3. See Standard Plan LB-404 for valve box size (No. 3 1/2 concrete pull box).

Dimensions are in millimeters, except as noted

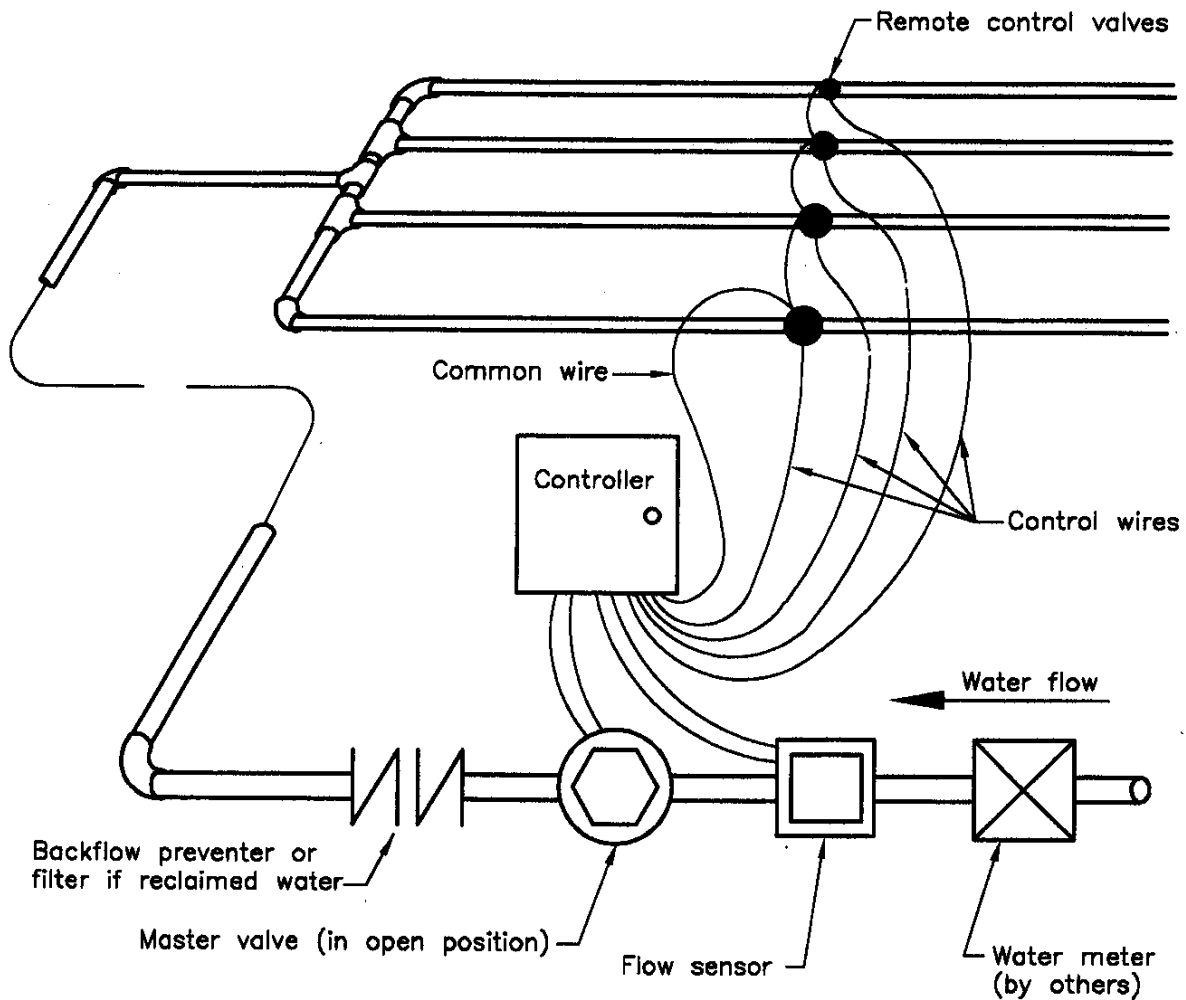
REVISIONS		CITY OF LONG BEACH, CALIFORNIA DEPARTMENT OF PUBLIC WORKS	STANDARD PLAN NO.
NO.	DATE		METRIC 413
1	12/10/97	FLOW SENSOR	SHEET 1 OF 1
2	12/23/02		
3		APPROVED BY: <i>Mark Christoffel</i>	DATE: <u>1/10/03</u>
4		CITY ENGINEER R.E. No. <u>40599</u>	EX. DATE <u>03/31/03</u>



NOTE: See Standard Plan LB-405 for remote control valve

Dimensions are in millimeters, except as noted

REVISIONS		CITY OF LONG BEACH, CALIFORNIA DEPARTMENT OF PUBLIC WORKS	STANDARD PLAN NO.
NO.	DATE		METRIC 414
1	12/10/97	MOISTURE SENSOR	SHEET 1 OF 1
2	12/23/02		
3		APPROVED BY: <i>Mark Quintana</i>	DATE: <i>1/10/03</i>
4		CITY ENGINEER R.E. No. <i>40589</i>	EX. DATE: <i>03/31/03</i>

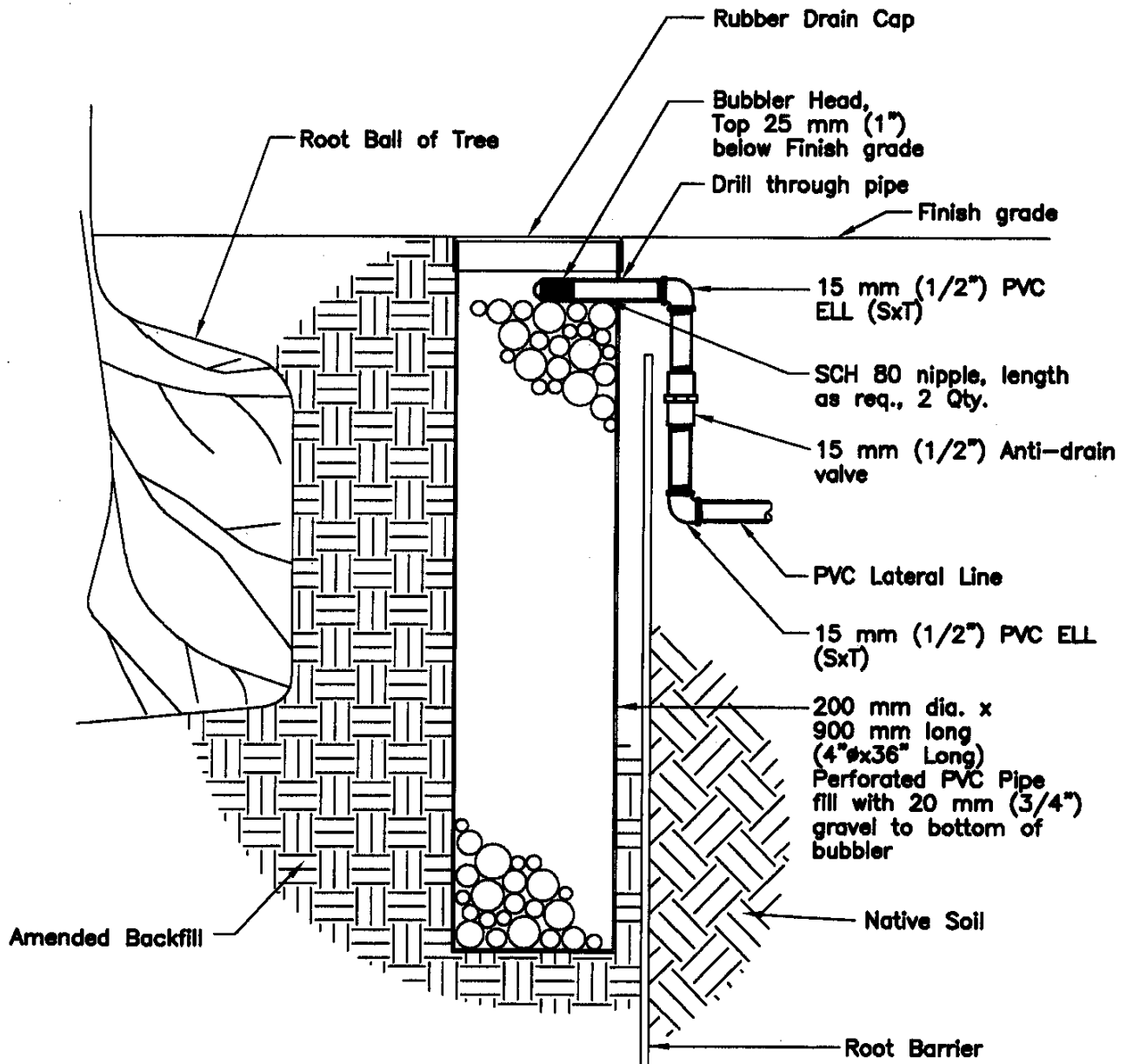


Note:

All control wires, master valve and flow sensor wires
to be within sch 40 gray PVC

Dimensions are in millimeters, except as noted

REVISIONS		CITY OF LONG BEACH, CALIFORNIA DEPARTMENT OF PUBLIC WORKS	STANDARD PLAN NO.
NO.	DATE		
1	12/23/02	TYPICAL CONTROLLER DIAGRAM	METRIC 415
2			
3			
4			
APPROVED BY: <i>Mal O. J. [Signature]</i>		DATE: <i>1/10/03</i>	SHEET 1 OF 1
CITY ENGINEER R.E. No. 40599		EX. DATE: 03/31/03	



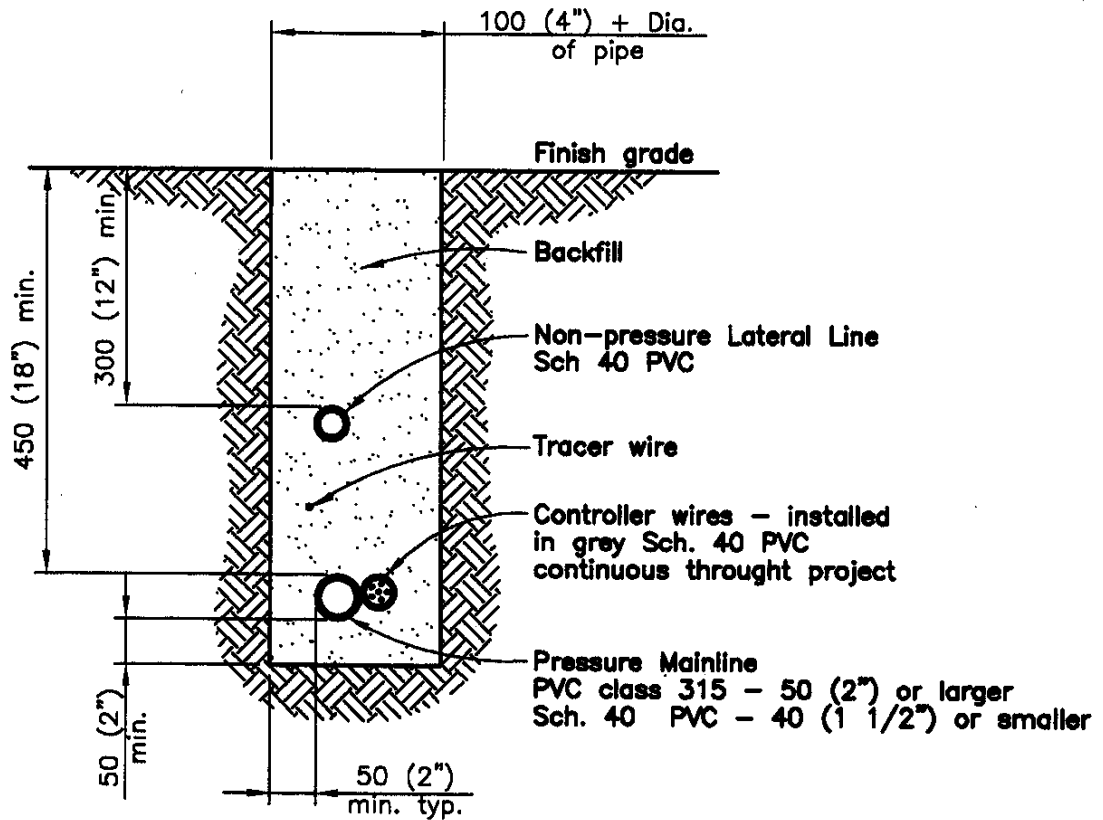
TREE BUBBLER

NO SCALE

Note:
Provide two 125 ml/s (2 GPM)
Bubblers per Tree

Dimensions are in millimeters, except as noted

REVISIONS		CITY OF LONG BEACH, CALIFORNIA DEPARTMENT OF PUBLIC WORKS	STANDARD PLAN NO.
NO.	DATE		
1	12/23/02	TREE BUBBLER	METRIC 416
2			
3			
4		APPROVED BY: <i>Max Chittell</i> CITY ENGINEER R.E. No. 70509	SHEET 1 OF 1
		DATE: 1/10/03 EX. DATE: 03/31/03	



Dimensions are in millimeters, except as noted

REVISIONS		CITY OF LONG BEACH, CALIFORNIA DEPARTMENT OF PUBLIC WORKS	STANDARD PLAN NO.
NO.	DATE		METRIC 417
1	12/23/02	PIPE TRENCHING	SHEET 1 OF 1
2			
3			
4			
APPROVED BY: <i>Mark Chittell</i>		DATE: <i>1/10/03</i>	
CITY ENGINEER R.E. No. <i>40399</i>		EX. DATE <i>03/31/03</i>	